



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/145,987	09/03/1998	YUKIKO NAKANISHI	2224-0142P	6638

2292 7590 04/28/2003

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

WHITE, EVERETT NMN

ART UNIT	PAPER NUMBER
----------	--------------

1623

38

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/145,987

Applicant(s)

NAKANISHI ET AL.

Examiner

EVERETT WHITE

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 15-18, 20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-18, 20, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 28, 2003 has been entered.
2. The amendment filed September 13, 2002 has been received, entered and carefully considered. The amendment affects the instant application accordingly:
  - (A) New Claim 23 has been added.
  - (B) Claims 1-13, 15-18, 20 and 22 have been amended.
  - (C) Comments regarding Office Action have been provided drawn to
    - (a) 102(b) rejection, which has been withdrawn.
    - (b) 103(a) rejection, which has been withdrawn.
3. Claims 1-13, 15-18, 20, 22, and 23 are pending in the case.
4. The text of those sections of title 35, U. S. Code not included in this action can be found in a prior Office action.

### ***Claim Objections***

5. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12, which discloses a slurry having a pH of 4.8 to 6.0 and depends from Claim 11, does not further limit the subject matter of Claim 11 since Claim 11 discloses the slurry as having a pH of 4.5 to 5.5 does not cover the full pH range set forth in Claim 12.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 1623

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-13, 15-18, 20, 22, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-13, 15-18, 20, 22, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the claiming of a cellulose triacetate compound in the preamble of the claims and methods directed to such compounds when the claims set forth a totally different compound. The compound cellulose triacetate is the name of a specific compound, which includes a cellulose moiety that has  $\text{CH}_3\text{COO}$ - radicals attached at the hydroxyl locations of the saccharide units of the cellulose moiety. The features (i), (ii), and (iii), which are set forth in Claim 1 describe compounds that cannot be identified as a cellulose triacetate compound. Accordingly, this improper description of cellulose triacetate renders Claim 1 and claims depending from Claim 1 indefinite. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). It appears that applicants are claiming a derivative of cellulose triacetate.

Claim 22 appears to be directed to a totally different process than what is set forth in Claim 17, from which Claim 22 is dependent from. Claims 17 and 22 set forth incompatible process steps and Claim 22 does not further limit any process steps that are set forth in Claim 17.

### ***Claim Rejections - 35 USC § 102***

8. Claims 1-10, 13, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Finlayson (GB Patent No. 1,102,976, newly cited).

Art Unit: 1623

Applicants claim a cellulose triacetate compound which is characterized by a number of features that further suggest the preparation of cellulose triacetate compounds comprising carboxyl groups, alkali metal salt of acids, or cellulose triacetate that comprises alkali metal or alkaline earth metal.

The Finlayson GB patent shows that the cellulose triacetate compound is well known in the art. Applicants are reminded that process limitations cannot impart patentability to a product that is not patentably distinguished over the prior art. *In re Thorpe et al.* (CAFC 1985), *supra*; *In re Dike* (CCPA 1968) 394 F2d 584, 157 USPQ 581; *Tri-Wall Containers, Inc. v. United States et al.* (Ct Cls 1969) 408 F2d 748, 161 USPQ 116; *In re Brown et al.* (CCPA 1972) 450 F2d 531, 173 USPQ 685; *Ex parte Edwards et al.* (BPAI 1986) 231 USPQ 981. Accordingly, the cellulose triacetate compound of the Finlayson GB patent anticipates the cellulose triacetate compound of the instant claims.

9. Claims 1 and 4-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sullivan (US Patent No. 4,426,481, already of record).

Applicants claim a cellulose triacetate compound which is characterized by a number of features that further suggest the preparation of cellulose triacetate compounds comprising carboxyl groups, alkali metal salt of an acid, and alkaline earth metal of an acid.

The Sullivan patent discloses dibasic acid half-ester derivatives of cellulose which derivatives contain free carboxyl groups. An example of the cellulose acetate derivatives that are disclosed in the Sullivan patent include cellulose acetate hydrogen succinate hydrogen phthalate (see column 5, lines 30 and 31). The cellulose acetate hydrogen succinate hydrogen phthalate of the Sullivan patent anticipates a cellulose triacetate derivative of the instant claims, which include the claimed feature wherein the cellulose triacetate compound is further processed to contain free carboxyl groups.

10. Claims 1 and 4-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii et al (US Patent No. 3,816,150, already of record).

Art Unit: 1623

Applicants claim a cellulose triacetate compound which is characterized by a number of features that further suggest the preparation of cellulose triacetate compounds that have been derivatized by a group consisting of an acid having an acid dissociation exponent  $pK_a$  of 1.93 to 4.50 in water, carboxyl groups, alkali metal salt of an acid, and alkaline earth metal salt of an acid.

The Ishii et al patent discloses a process for modifying cellulose acetate wherein in example 1 the Ishii et al patent discloses the preparation of cellulose acetate maleate whereby the maleate group is derived from an acid having an acid dissociation exponent  $pK_a$  within the range of 1.93 to 4.50. Also see the process of the Ishii et al patent wherein other acids including succinic acid, phthalic acid, trimellitic acid and mixtures thereof may be substituted for maleic acid. See column 2, lines 12-15 of the Ishii et al patent wherein the degree of substitution (acetyl for hydroxyl) of the cellulose acetate is preferably above 2.3, which embraces the degree of acetylation indicated for the cellulose triacetate set forth on page 8, lines 24-27 of the instant specification. The above described cellulose triacetate derivatives of the Ishii et al patent anticipate the cellulose triacetates having features (i) and (ii) of Claim 1 and further limitations of these features set forth in the depending claims.

11. Claims 18, 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda et al (US Patent No. 5,152,974, newly cited).

Applicants claim a dope containing a cellulose triacetate compound and an organic solvent. Additional limitation in the dependent claims include a halogenated hydrocarbon as the organic solvent and a method for improving the releasability of a film from a support which comprises casting a dope of Claim 18 on the support.

The Takeda et al discloses cellulose triacetate film that can be obtained by casting a cellulose triacetate dope using a solvent mixture comprising methylene chloride on a support (see abstract). The cellulose triacetate dope comprising methylene chloride as part of the solvent mixture anticipates the dope of Claims 18 and 23 which set forth a cellulose triacetate compound and a halogenated hydrocarbon as the solvent. The Takeda et al patent discloses a cellulose triacetate dope, which comprises methylene

Art Unit: 1623

chloride, being cast on a support to obtain a cellulose triacetate film. Since the cellulose triacetate dope of the Takeda et al patent is analogous to the cellulose triacetate dope of the instant claims, the releasability property of the film from a support in the Takeda et al patent would be analogous to the releasability property of the film from a support as instantly claimed. Products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada* 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01. Hence the cellulose triacetate dope and the film obtained therefrom in the Takeda et al patent anticipates the instantly claimed cellulose triacetate dope and film having improved releasability.

### ***Claim Rejections - 35 USC § 103***

12. Claims 1-13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finlayson (GB Patent No. 1,102,976, newly added).

Applicants claim a cellulose triacetate compound which is characterized by a number of features that further suggests the preparation of cellulose triacetate compounds comprising carboxyl groups, an alkali metal salt of an acid, or an alkaline earth metal of an acid. Additional limitations in the dependent claims include a cellulose triacetate composition in the form of a slurry at a pH of 4.5 to 5.5.

The Finlayson GB patent shows that the cellulose triacetate compound is well known in the art. The cellulose triacetate product of the instant claims differs from the cellulose triacetate of Finlayson GB patent by claiming a cellulose triacetate composition in the form of a slurry at a pH of 4.5 to 5.5. Finlayson discloses cellulose triacetate in slurry form, but does not disclose the pH of the slurry. Applicants are reminded that the Office is in no position to determine experimentally whether or not, in an invention such as that at issue, the subject matter is the same as that of the reference. Accordingly, in such instances, this shifts the burden to the Applicants who have the resources to make such a determination and are in a better position to determine experimentally the differences between the invention as claimed and that of

Art Unit: 1623

the art. *In re Pye*, 355 F2d 641, 148 USPQ 426 (CCPA 1966). Furthermore, the limitation of a product with respect to ranges of pH does not impart patentability to a product when such values are those, which would be determined by one skilled in the art in achieving optimum operation of the product. The source of the cellulose as a raw material disclosed in Claims 15 and 16 is well known in the art and is not seen as making the cellulose triacetate compound patentable over the prior art. While Applicants claims are directed to a cellulose triacetate product limited by the pH value of the cellulose triacetate in slurry form, there is no reason found for concluding that the product claimed could be distinguished from the product of the Finlayson GB patent merely because the claimed product was produced under the specific conditions recited, which conditions fall within the purview of the disclosure of the Finlayson GB patent.

13. Claims 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al (US Patent No. 3,816,150, already of record) in view of Malm (US Patent No. 2,582,049, newly cited).

Applicants claim a method of producing a cellulose triacetate which comprises: (i) mixing a cellulose triacetate, and an acid having an acid dissociation exponent  $pK_a$  of 1.93 to 4.50 in water or the metal salt thereof, to give a slurry pH of 4.5 to 6.0; (ii) treating a cellulose triacetate with said acid or said metal salt thereof to give a slurry pH of 4.5 to 6.0; or (iii) adding an alkali metal salt of said acid or an alkaline earth metal salt of said acid to a cellulose triacetate, such that the total content of said alkali metal and said alkaline earth metal in 1 gram of the cellulose triacetate is  $5.5 \times 10^{-6}$  equivalent or less in terms of ion equivalent, to give a slurry pH of 4.5 to 6.0. Additional limitations in dependent Claim 22 further characterizes the method of producing a cellulose triacetate using acetic acid, acetic anhydride, and sulfuric acid catalyst.

The Ishii et al patent discloses a process for modifying cellulose acetate wherein in example 1 Ishii et al discloses the preparation of cellulose acetate maleate whereby the maleate group is derived from an acid having an acid dissociation exponent  $pK_a$



Art Unit: 1623

within the range of 1.93 to 4.50. Also see column 1, lines 47-49 of the Ishii et al patent wherein other acids including succinic acid, phthalic acid, trimellitic acid and mixture thereof may be substituted for maleic acid. See column 2, lines 12-15 of the Ishii et al patent wherein the degree of substitution (acetyl for hydroxyl) of the cellulose acetate is preferably above 2.3, which embraces the degree of acetylation indicated for the cellulose triacetate set forth on page 8, lines 24-27 of the instant specification. The instantly claimed method for producing cellulose triacetate differs from the Ishii et al patent by setting forth the initial steps in Claim 22 for preparing cellulose triacetate before further steps of modifying the cellulose triacetate that is set forth in Claim 17. The use of reactants comprising cellulose, acetic acid, acetic anhydride, and sulfuric acid catalyst to produce cellulose triacetate is well known in the art as shown in the Malm et al patent. See Example 1 of the Malm et al patent wherein a cellulose triacetate is prepared using cellulose, acetic acid, sulfuric acid, and acetic anhydride as the reactants. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of the Ishii et al patent to modify cellulose triacetate using cellulose triacetate that was prepared using the process of the Malm et al patent in view of the recognition in the art, as evidenced by the Malm et al patent, that the cellulose triacetate prepared using such a process results in a stable product having unusually high moisture resistance and dielectric properties.

### **Summary**

14. All the claims are rejected.

### **Examiner's Telephone Number, Fax Number, and Other Information**

15. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit our website at [www.uspto.gov](http://www.uspto.gov) and click on the button "Patent Electronic Business Center" for more information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (703) 308-

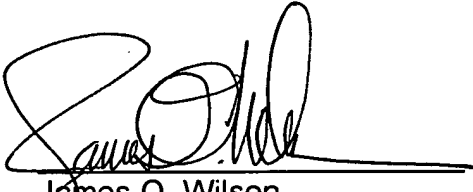
Art Unit: 1623

4621. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reach on (703) 308-4624. The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

*E. White*  
E.White

  
James O. Wilson  
Supervisory Primary Examiner  
Technology Center 1600